

Patent Abstracts of Japan

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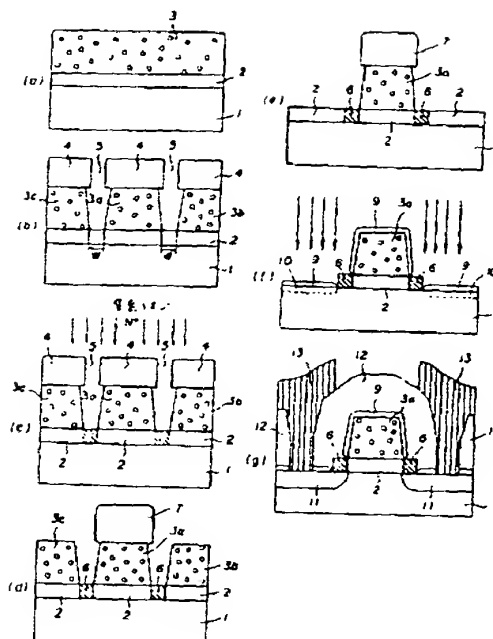
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TITLE : MANUFACTURE OF MOS TYPE FET



ABSTRACT : PURPOSE: To increase the speed of switching operation as well as to improve coverage by a method wherein the part extending to the source and drain region of the oxide film locate under a gate electrode is formed into a nitride film by implanting nitrogen ions, and a source and drain diffusion layer is formed by impacting impurities into the source and drain region using the gate electrode and the nitride film both of a polycrystalline film part as a mask.

CONSTITUTION: The width W of an aperture part 5 corresponds to the diffusion distance in a lateral direction when a source and drain diffusion layer is formed later, and the width W is a little narrower than the diffusion distance in the lateral direction. Then, nitride ions are implanted into the gate oxide film 2 of the aperture part 5 by an ion-implanting method using the resist 4, formed when the aperture part 5 was formed, as a mask. Subsequently, after the resist 4 has been removed, a heat treatment is conducted, and a nitride film 6 is formed. A heat treatment is conducted, and a source and drain diffusion layer 11 is formed in the prescribed depth. Lastly, an intermediate insulating film 12 is formed, an aluminum wiring 13 is formed, and a silicon gate MOS transistor element is manufactured.

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